

ABSTRACT

A method of forming device isolation structures in an embedded semiconductor device is disclosed. The method of forming device isolation structures comprises the steps of:

5 providing a substrate having a first area in which ions are implanted; forming a first device isolation structure through partial oxidation in the first area; forming a first type well with deep junction by diffusing the ions in the first area; forming a second device isolation structure with a trench in a

10 second area of the substrate; forming a first type well with shallow junction in peripheral regions of the second device isolation structure and a region between the first device isolation structure and the second device isolation structure; forming a second type well with shallow junction in peripheral

15 regions of the first device isolation structure and a region of the second device isolation structure; and defining first and second type active regions on the substrate. Therefore, the present invention is applicable to fabrication of semiconductor devices requiring a fine pattern. In addition, the present

20 invention can simplify processes of fabricating semiconductor devices because a well with deep junction is simultaneously formed during formation of the device isolation structures.